IN THE CLAIMS

Please cancel claims 18-20 and 28-30 as indicated below.

Please add claims 37-55 which correspond to originally filed claims 18-36.

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-36 (cancelled)

Claim 37 (new) A method, comprising:

partitioning a program into a plurality of groups of instructions;

assigning a group of instructions selected from the plurality of groups of instructions to a plurality of interconnected preselected computation nodes;

loading the group of instructions to the plurality of interconnected preselected computation nodes; and

executing the group of instructions as each one of the instructions in the group of instructions receives all necessary associated operands for execution.

Claim 38 (new) The method of claim 37, wherein at least one computation node included in the plurality of interconnected preselected computation nodes has at least one input port capable of being coupled to at least one preselected first other computation node included in the plurality of interconnected preselected computation nodes, the input port to receive input data, a first store coupled to the at least one input port to store the input data, a second store coupled to an instruction sequencer, the second store to receive and store the at least one instruction, an instruction wakeup unit to match the input data to the at least one instruction, at least one execution unit to execute the at least one instruction using the input data to produce output data, at least one output port capable of being coupled to at least one second other preselected computation node included in the plurality of interconnected preselected computation nodes, and a router to direct the

output data from the at least one output port to the at least one preselected second other computation node.

Claim 39 (new) The method of claim 37, wherein at least one of the plurality of groups of instructions is a basic block.

Claim 40 (new) The method of claim 37, wherein at least one of the plurality of groups of instructions is a hyperblock.

Claim 41 (new) The method of claim 37, wherein at least one of the plurality of groups of instructions is a superblock.

Claim 42 (new) The method of claim 37, wherein at least one of the plurality of groups of instructions is an instruction trace constructed by a hardware trace construction unit at run time.

Claim 43 (new) The method of claim 37, wherein loading the group of instructions to the plurality of interconnected preselected computation nodes includes:

sending at least two instructions selected from the group of instructions from an instruction sequencer to a selected computation node included in the plurality of interconnected preselected computation nodes for storage in a store.

Claim 44 (new) The method of claim 37, wherein executing the group of instructions as each one of the instructions in the group of instructions receives all necessary associated operands for execution includes:

matching at least one instruction selected from the group of instructions with at least one operand received from an other computation node included in the plurality of interconnected preselected computation nodes.

Claim 45 (new) The method of claim 37, wherein loading the group of instructions to the plurality of interconnected preselected computation nodes includes:

sending a first set of instructions selected from a first group of instructions selected from the plurality of groups of instructions from an instruction sequencer to the

plurality of interconnected preselected computation nodes for storage in a first frame included in a first computation node included in the plurality of interconnected preselected computation nodes; and

sending a second set of instructions selected from the first group of instructions from the instruction sequencer to the plurality of interconnected preselected computation nodes for storage in a second frame included in the first computation node.

Claim 46 (new) The method of claim 37, wherein assigning a group of instructions selected from the plurality of groups of instructions to a plurality of interconnected preselected computation nodes includes:

assigning a first group of instructions to a first set of frames included in the plurality of interconnected preselected computation nodes;

assigning a second group of instructions to a second set of frames included in the plurality of interconnected preselected computation nodes, wherein the first group and the second group of instructions are capable of concurrent execution, and wherein at least one output datum associated with the first group of instructions is written to a register file and passed directly to the second group of instructions for use as an input datum by the second group of instructions.

Claim 47 (new) An article comprising a machine-accessible medium having associated data, wherein the data, when accessed, results in a machine performing:

loading a group of instructions to a plurality of interconnected preselelcted computation nodes, wherein a program is partitioned into a plurality of groups of instructions, wherein the group of instructions from the plurality of groups of instructions is assigned to the plurality of interconnected preselelcted computation nodes; and

executing the group of instructions as each one of the instructions in the group of instructions receives all necessary associated operands for execution.

Claim 48 (new) The article of claim 47, wherein partitioning the program into the plurality of groups of instructions is performed by a compiler.

Claim 49 (new) The article of claim 47, wherein partitioning the program into the plurality of groups of instructions is performed by a run-time trace mapper.

Claim 50 (new) The article of claim 47, wherein the machine-accessible medium further includes data, which when accessed by the machine, results in the machine performing:

statically assigning all of the plurality of groups of instructions for execution.

Claim 51 (new) The article of claim 50, wherein the machine-accessible medium further includes data, which when accessed by the machine, results in the machine performing:

dynamically issuing one or more instructions from at least one of the plurality of groups of instructions for execution.

Claim 52 (new) The article of claim 47, wherein the machine-accessible medium further includes data, which when accessed by the machine, results in the machine performing:

generating a wakeup token to reserve an output data channel to connect selected computation nodes included in the plurality of interconnected preselected computation nodes.

Claim 53 (new) The article of claim 47, wherein the machine-accessible medium further includes data, which when accessed by the machine, results in the machine performing:

detecting execution termination of the group of instructions including an output having architecturally visible data; and

committing the architecturally visible data to a register file.

Claim 54 (new) The article of claim 47, wherein the machine-accessible medium further includes data, which when accessed by the machine, results in the machine performing:

detecting execution termination of the group of instructions including an output having architecturally visible data; and

committing the architecturally visible data to a memory.

Claim 55 (new) The article of claim 47, wherein the machine-accessible medium further includes data, which when accessed by the machine, results in the machine performing:

routing an output datum arising from executing the group of instructions to a consumer node included in the plurality of interconnected preselected computation nodes, wherein the address of the consumer node is included in a token associated with at least one instruction included in the group of instructions.